

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 10

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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MAILED

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PAT. & T.M. OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* ADAM K. BRANDLEY  
and  
JOHN E. IRWIN

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Appeal No. 2002-0875  
Application No. 09/212,127

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ON BRIEF

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Before FLEMING, GROSS and BARRY, *Administrative Patent Judges*.  
FLEMING, *Administrative Patent Judge*.

**DECISION ON APPEAL**

This is a decision on appeal from the final rejection  
of claims 1, 2, 5, 6, 8, 9, 11, 12, 15, 16, 18, 19, 21, 22, 25,

26, 28, 29 and 31 through 33. Claims 3, 4, 7, 10, 13, 14, 17, 20, 23, 24, 27 and 30 have been objected to.<sup>1</sup>

### ***Invention***

The invention relates to electric motors, specifically to an electric motor where the rotor of the motor also functions as a drive wheel. See page 2 of Appellants' Specification. As illustrated in Figure 1, the wheel 1 contains one or more (preferably, six) permanent magnets 2, which are preferably arranged in a circle, with opposite magnetic poles adjacent to one another. See page 12 of Appellants' Specification. Referring to Figures 3 and 4, electromagnets 6 are attached to the structure 4 that supports the axle for the drive wheel 1. Such electromagnets 6 are arranged generally in a plane that is substantially parallel, but not within, the plane or planes

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<sup>1</sup>From our review of the record, we find many inconsistencies as to whether the claims are rejected or objected to. Above is based upon the rejections found in the answer on the last paragraph on page 4 and next full two paragraphs on page 5. The Examiner should correct the status of the claims in the index of claims in the file wrapper.

containing the permanent magnets 2. See page 13 of Appellants' Specification.

Independent claim 1, present in the application, is reproduced as follows:

1. An electric motor, which comprises:

a drive wheel;

a structure to which said drive wheel is rotatably attached;

one or more permanent magnets attached to said drive wheel with opposite magnetic poles adjacent to one another;

one or more electromagnets attached to said structure and arranged generally in a plane that is substantially parallel to, but not within, the plane or planes containing said permanent magnets, said electromagnets being sufficiently close to said permanent magnets that the magnetic fields of said electromagnets and said permanent magnets will interact with one another;

a sensor that determines the location of said permanent magnets;

a switch for activating said electromagnets by connecting said electromagnets to a source of electrical power; and

a computer, said computer being capable of receiving input of the desired speed of rotation for said drive wheel, said computer being in communication with said sensor so that said computer is informed by said sensor about the location of said permanent magnets, said computer also being in communication with said switch in order to close said switch, said computer being capable of being programmed to produce a signal

to close said switch periodically from the time a pole of one of said permanent magnets has approached said sensor until the opposite pole of said permanent magnet approaches said sensor, and said computer producing such a periodic signal to close said switch that the total period said switch is closed will create an average voltage that produces the desired speed of rotation for said drive wheel.

### **References**

The references relied on by the Examiner are as follows:

Goldman et al. (Goldman)	4,223,255	Sept. 16, 1980
Wakuta et al. (Wakuta)	5,156,579	Oct. 20, 1992
Stridsberg	5,442,250	Aug. 15, 1995
Lutz et al. (Lutz)	5,755,302	May 26, 1998
		(filed Jan. 11, 1996)

### **Rejections at Issue**

Claims 1, 2, 11, 12, 21, 22 and 31 through 33 stand rejected under 35 U.S.C. § 103 as being unpatentable over Stridsberg in view of Goldman. Claims 5, 6, 8, 9, 15, 16, 18, 19, 25, 26, 28 and 29 stand rejected under 35 U.S.C. § 103 as being unpatentable over Stridsberg in view of Goldman and further in view of Wakuta. Claim 31 stands rejected under 35 U.S.C.

§ 103 as being unpatentable over Stridsberg in view of Goldman and further in view of Lutz.

### OPINION

With full consideration being given to the subject matter on appeal, the Examiner's rejections and the arguments of Appellants and the Examiner, for the reasons stated *infra*, we reverse the Examiner's rejection of claims 1, 2, 5, 6, 8, 9, 11, 12, 15, 16, 18, 19, 21, 22, 25, 26, 28, 29 and 31 through 33 under 35 U.S.C. § 103. We will first address the rejection of claims 1, 2, 11, 12, 21, 22 and 31 through 33 under 35 U.S.C. § 103.

In rejecting claims under 35 U.S.C. § 103, the Examiner bears the initial burden of establishing a *prima facie* case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). *See also In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). The Examiner can

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<sup>2</sup>We note that the Examiner has withdrawn the rejection under 35 U.S.C. § 112, first paragraph. See page 5 of the Examiner's Answer.

satisfy this burden by showing that some objective teaching in the prior art or knowledge generally available to one of ordinary skill in the art suggests the claimed subject matter. **In re**

**Fine**, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

Only if this initial burden is met does the burden of coming forward with evidence or argument shift to the Appellants.

**Oetiker**, 977 F.2d at 1445, 24 USPQ2d at 1444. **See also Piasecki**, 748 F.2d at 1472, 223 USPQ at 783.

An obviousness analysis commences with a review and consideration of all the pertinent evidence and arguments. "In reviewing the [E]xaminer's decision on appeal, the Board must necessarily weigh all of the evidence and argument." **Oetiker**, 977 F.2d at 1445, 24 USPQ2d at 1444. "[T]he Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion." **In re Lee**, 277 F.3d 1338, 1344, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002). With these principles in mind, we commence review of the pertinent evidence and arguments of Appellants and Examiner.

Appellants state that the Examiner correctly observed that Stridsberg does not disclose the electromagnets arranged generally in a plane that is substantially parallel to, but not within, the plane or planes containing the permanent magnets as recited in Appellants' claims. See page 12 of Appellants' Brief. Appellants further argue that Goldman does not teach this limitation as well. See pages 14 and 15 of Appellants' Brief.

As pointed out by our reviewing court, we must first determine the scope of claims 12 and 18. "[T]he name of the game is the claim." ***In re Hiniker Co.***, 150 F.3d 1362, 1369, 47 USPQ2d 1523, 1529 (Fed. Cir. 1998). Claims will be given their broadest reasonable interpretation consistent with the specification, and limitations appearing in the specification are not to be read into the claims. ***In re Etter***, 755 F.2d 852, 858, 225 USPQ 1, 5 (Fed. Cir. 1985). Our reviewing court also states in ***In re Zletz***, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989), that "claims must be interpreted as broadly as their terms reasonably allow."

Appellants argue that claims 1, 11, 21, 31, 32 and 33 have been amended expressly to assert that the electromagnets are

in a plane that is substantially parallel to, but not within, the plane or planes containing the magnets. Appellants argue that the word "parallel" implicitly conveys the same understanding that Figures 2, 3, 5, 6, 9, 10, 11, 12, 13, 14, 15 and 16 show.

We note that Appellants' independent claim 1 recites "one or more electromagnets attached to said structure and arranged generally in a plane that is substantially parallel to, but not within, the plane or planes containing said permanent magnets." We note that the other independent claims, claims 11, 21, 31, 32 and 33, recite the same or similar language. Furthermore, we agree with the Appellants that the language should be construed to mean that the electromagnets must be arranged in a plane that is substantially parallel to the plane or planes containing the permanent magnets. The language also must be construed to mean that the plane that contains the electromagnets must not be the same plane as the plane or planes containing the permanent magnets.

We agree with the Appellants that Goldman does not teach electromagnets arranged generally in a plane that is substantially parallel to, but not within, the plane or planes



containing the permanent magnets. As shown in Figure 1, Goldman teaches a pair of electromagnets and permanent magnets in a U-shaped fashion. In particular, Goldman teaches a U-shaped electromagnet 4 and a U-shaped permanent magnet 7. As shown, the U-shaped electromagnet 4 is paired with a similar U-shaped permanent magnet 7 with their backs together and their open end facing outward. See Figure 1 of Goldman. Thus, the Goldman electromagnet is in the same plane as the Goldman permanent magnet. Therefore, Goldman does not teach one or more electromagnets attached to the structure and arranged generally in a plane that is substantially parallel to, but not within, the plane or planes containing said permanent magnets as recited in Appellants' claims.

Turning to the rejection of claims 5, 6, 8, 9, 15, 16, 18, 19, 25, 26, 28 and 29 under 35 U.S.C. § 103 as being unpatentable over Stridsberg in view of Goldman and further in view of Wakuta, we note that Wakuta does not teach the above limitation as well. Therefore, we will not sustain this rejection for the same reasons as presented above. Turning to the rejection of claim 31 under 35 U.S.C. § 103 as being



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